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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,146	09/06/2000	William F. Beausoleil	POU9-1999-0183-US1	9242

34313 7590 01/14/2005

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EXAMINER

GARCIA OTERO, EDUARDO

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/656,146

Applicant(s)

BEAUSOLEIL ET AL.

Examiner

Eduardo Garcia-Otero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 5-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/2/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION: Final Action

Introduction

1. Title is: HIGH SPEED SOFTWARE DRIVEN EMULATOR COMPRISED OF A PLURALITY OF EMULATION PROCESSORS WITH IMPROVED MULTIPLEXED DATA MEMORY.
2. First named inventor is: BEAUSOLEIL.
3. US Application was filed 9/6/2000, and no earlier priority is claimed.
4. Claims 5-9 are pending.
5. Applicant's Amendment was received 12/2/04.

Index of Important Prior Art

6. Staros refers to US patent 5,708,850.
7. Bass refers to US patent 6,473,838.

Applicant's Remarks

8. SPECIFICATION. Remarks page 2-4. The prior objection to the Specification is withdrawn due to Applicant's amendments.
9. CLAIM AMENDMENTS. New claims 6 and 8 state "(Original)", but should state "(New)" because they are new claims. Please amend appropriately.
10. CLAIM REJECTIONS UNDER 35 USC 112, HIERARCHY. Remarks page 8. Based upon Applicant's discussion, an engine contains at least one module, each module contains plurality of clusters, each cluster contains a plurality of processors. The 35 USC 112 rejection of the prior claims is moot because the prior claims are cancelled. However, the new claims do not clearly state the hierarchical nature of the engine (engine, module(s), clusters, processors). Please claim the hierarchy sequentially from the top down (engine, module(s), clusters, processors), or from bottom up.
11. PRIOR ART CLAIM REJECTIONS. Remarks page 9. Applicant asserts that "Staros does not teach the use of processors" that "execute logic gate functions from a logic design", and "The present claims define an apparatus used to verify the functionality of logic designs...". These assertions are not persuasive because claim 5 is interpreted as a "machine" per the statutory categories of 35 USC 101. Note the claim 5 preamble states "A software driven emulation engine for verifying functionality of logic designs comprising". Thus, the

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preamble term "for verifying functionality of logic designs" is interpreted as a mere intended use of the machine.

12. If the Applicant intends to claim a "process" per 35 USC 101, then the preamble should clearly indicate "process". Additionally, preferably the limitations should be explicitly listed outside of the preamble. This type of explicit listing prevents any indefiniteness regarding whether preamble terms are limitations or are merely intended use, and thus assists in compact prosecution.
13. Regarding the specific elements of the new claims with respect to Staros, new rejections are provided below.

Objection to Drawings-Prior Art

14. FIG 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
15. Specifically, FIG 1 states "05/28/99 V1.6 Drawn by Peter Tannenbaum", and is not properly labeled as "Prior Art".

Request for Information

16. Additionally, FIG 2 does not have a date. The Examiner requests the date upon which FIG 2 was drawn. In particular, the Examiner is concerned that FIG 2 was also drawn on approximately the same date as FIG 1, and may serve as a statutory bar under 35 USC 102(b). Note that the present application was filed on 9/6/2000, which is more than one year after 5/28/1999 which is stated on FIG 1.

35 USC § 112-Second Paragraph-indefinite claims

17. The following is a quotation of the second paragraph of 35 U.S.C. 112: The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
18. Claims 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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19. In claim 5, the apparently hierarchical structure of the claimed invention is not clear. Based upon Applicant's discussion at Remarks page 8, an engine contains at least one module, each module contains plurality of clusters, each cluster contains a plurality of processors. The new claims do not clearly state the hierarchical nature of the engine (engine, module(s), clusters, processors). Please claim the hierarchy sequentially from top down (engine, module(s), clusters, processors), or from bottom up. The present claims are presented in a confusing combination of top down, and of bottom up, and it is not clear whether or not anything else may be inserted into the middle.
20. Additionally, in claim 5 the term "processors organized into a plurality of clusters" is indefinite. Note that claim 5 also states "each of said plurality of clusters comprise a plurality of processors". Thus, this claim terminology is somewhat circular, and does not clearly indicate what the term "organized" means. If the Applicant intends any specific type of organization beyond mere plurality of processors, then such limitation should be expressly stated. See MPEP 2144.04(VI)(B) and *In re Harza*, 274 F.2d 669, 124 USPQ 378, 380 (CCPA 1960) which states "It is well settled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced". Similarly, this issue also applies to the multiplicity of clusters that appear to be organized into a module.
21. Thus, the mere organization of processors into a cluster, of clusters into a module, and of modules into an engine is not given any patentable weight beyond mere multiplicity of processors.
22. Claims 6-9 are rejected for the same reasons as claim 5.

35 USC § 102(b)

23. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
24. Claims 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Staros, US Patent 5,708,850.
25. Claim 5 limitation [1] "**plurality of processors**" is disclosed by Staros at Abstract "multiprocessor system".

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- 26. Claim 5 limitation [2] **“time division multiplexer”** is disclosed by Staros at Abstract **“time division multiplexed”**.
- 27. Claim 6 limitation [1] **“clock rate for read operations is twice the operating clock rate of said module”** is disclosed by Staros at Abstract **“time division multiplexed”**.
- 28. Claim 7 limitation [1] **“plurality of processors”** is disclosed by Staros at Abstract **“multiprocessor system”**.
- 29. Claim 7 limitation [2] **“first time division multiplexer”** is disclosed by Staros at Abstract **“time division multiplexed”**.
- 30. Claim 7 limitation [3] **“second time division multiplexer”** is disclosed by Staros at Abstract **“time division multiplexed”**.
- 31. Claim 8 limitation [1] **“clock rate for read operations is twice the operating clock rate of said module”** is disclosed by Staros at Abstract **“time division multiplexed”**.
- 32. Claim 9 limitation [1] **“plurality of processors”** is disclosed by Staros at Abstract **“multiprocessor system”**.
- 33. Claim 9 limitation [2] **“time division multiplexer”** is disclosed by Staros at Abstract **“time division multiplexed”**.

Conclusion

- 34. All claims stand rejected under: 35 USC 112, and 35 USC 102(b).

Response to Amendments or new IDS-FINAL OFFICE ACTION

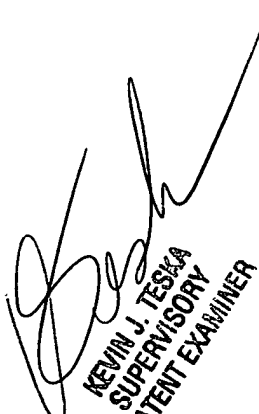
- 35. Applicant's amendments or new IDS necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Communication

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Garcia-Otero whose telephone number is 571-272-3711. The examiner can normally be reached on Monday through Thursday from 9:00 AM to 8:00 PM. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at 571-272-3761. The fax phone number for this group is 703-872-9306.

* * * *



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER